

The Impact of a Social Marketing Campaign on Increasing Fruit and Vegetable Consumption Among Middle School Adolescents

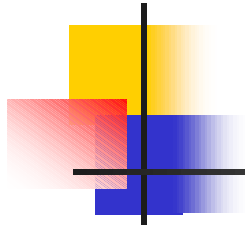
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What is Social Marketing

- Commercial marketing technologies
- Consumer-focused
- Formative research
- Pre-testing



Why Social Marketing?

- Appropriate development of programs, strategies and communications.

- More likely to:
 - resonate with consumer,
 - entice participation,
 - and produce intended results.



Social Marketing in Public Health

- Cardiovascular disease
- Breast cancer screening
- Guinea worm control
- Oral rehydration therapy
- HIV prevention
- Physical activity and nutrition



Study Background

- CDC Grant
- Compare Intervention Approaches:
 - Social marketing (Northwest Middle)
 - Curriculum-only (Bryant Intermediate)
 - Trimester A & B
 - No-intervention (Glendale Middle)



Research Questions

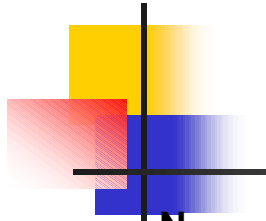
- Students: consumption, asking behaviors, knowledge, self-efficacy, presentation, availability, preferences; correlation between variables and consumption.
- Faculty: fruit and vegetable consumption, and self-efficacy.
- Parents: consumption, self-efficacy, attitudes, and behaviors.



Study Design

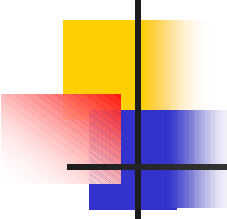
- Quasi experimental
 - 3 x 2
- Independent variables
 - type of intervention.
 - gender and grade.
- Dependent variables
 - consumption, asking behaviors, knowledge, self-efficacy, presentation, and availability.

Subjects- Students



	Social Marketing Intervention	Curriculum- Only Trimester A	Curriculum- Only Trimester B	No- Intervention
<u>N</u>	177	60	106	165
Gender				
Male (%)	83 (46.9)	27 (45.0)	53 (50.0)	81 (49.1)
Female (%)	94 (53.1)	3 (5.0)	53 (50.0)	84 (50.9)
Grade				
7 th (%)	90 (50.8)	60 (100.0)	106 (100.0)	90 (54.4)
8 th (%)	87 (49.2)			75 (45.5)
Age				
11 (%)	1 (0.6)			1 (0.6)
12 (%)	42 (23.7)	36 (60.0)	39 (36.8)	44 (26.7)
13 (%)	91 (51.4)	24 (40.0)	66 (62.3)	77 (46.7)
14 (%)	41 (23.2)		1 (0.9)	43 (26.1)
15 (%)	2 (1.1)			

Subjects- Faculty

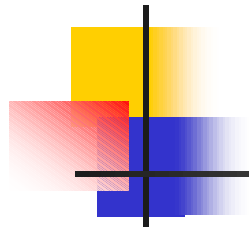


	Social Marketing Intervention	Curriculum-Only Intervention	No Intervention
<u>N</u>	22	16	21
Gender			
Male (%)	3 (13.6)	5 (31.3)	6 (28.6)
Female (%)	19 (86.4)	11 (68.8)	15 (71.4)
Years at School			
< 5	11 (50.0)	9 (56.3)	13 (61.9)
5-10	6 (27.3)	3 (18.8)	6 (28.6)
>10	5 (9.1)	3 (18.8)	2 (9.5)
unknown		1 (6.3)	
Age			
<40 years (%)	9 (40.9)	9 (56.3)	11 (52.4)
> 40 years (%)	11 (50.0)	6 (37.5)	10 (47.6)
unknown	2 (9.1)	1 (6.3)	
Position			
Faculty	16 (72.7)	15 (93.8)	19 (90.5)
Staff	5 (22.7)		
Other	1 (4.5)	1 (6.3)	2 (9.5)



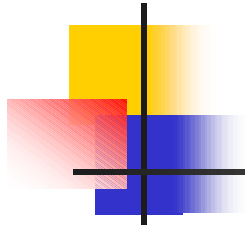
Subjects- Parents

	Pretest	Posttest
	N	N
Social marketing intervention	110	89
Curriculum-only intervention	103	77
No-intervention	101	92



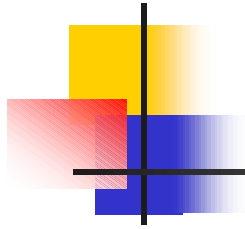
Instrumentation

- Students: 63-item; self-administered
- Faculty: 15-item; self-administered
- Parents: 34-item; telephone



Instruments

- Students
 - Youth Adolescent Questionnaire- Rockett, et al., 1995
 - Self-efficacy- Beech, et al., 1999
 - Knowledge, asking behaviors- Perry, et al. 1998
 - Availability, presentation & preferences (Dept of Health)



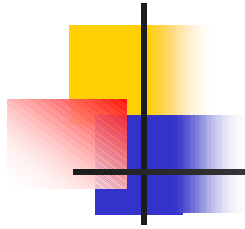
Instruments

- Parents
 - Consumption- NCI, 1993
 - Attitudes, self-efficacy, knowledge, & behaviors- Perry, et al., 1998
- Faculty
 - Consumption- NCI, 1993
 - Self-efficacy- NCI, 1993



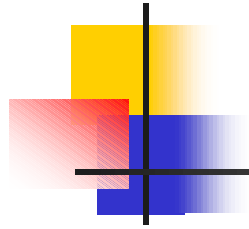
Study Protocol

- Pretest
- Intervention
 - Social marketing- 8 weeks
 - Curriculum- 4 lessons
- Posttest
 - 1 month after intervention



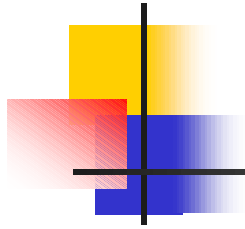
Formative Research

- Focus Groups
 - Students, parents, teachers, & food service
- One-on-one interviews
 - Students
- Data analysis
 - NUD*IST software
- Data-to-Intervention Translation Checklist



Social Marketing Interventions

- Kick-off assembly
- Posters, banners, announcements, display
- Contest
- Snack breaks
- F&V in cafeteria, trays, veggie pizza
- Newsletters
- Classes
- Parent teacher conference display



Curriculum

- 4 lessons
- Georgia 5 a Day for Better Health, Give Yourself the High Five
 - Servings sizes
 - Positive effects of eating F&V
 - Goal setting
 - Barriers
 - Strategies
 - Personal assessment



Data Analysis

- Descriptive statistics
- Non parametric statistics
 - Kruskal-Wallis one-way analysis of variance
 - Wilcoxon signed rank
 - Mann-Whitney U
 - McNemar
 - Fisher's exact
 - Spearman's rank order



Results Between Groups

- Students- 1 significant finding
 - Choosing fruit at lunch (pg. 77)
- Faculty- 2 significant findings
 - Self-efficacy (Table 28)
 - Consumption (Table 29)



Social Marketing Results

- Students

- Asking for vegetables at dinner (pg. 78)
- Perceived availability in cafeteria (pg. 81)
- Knowledge (Table 7)
- Gender and grade differences (pp. 91, 94, 95)



Gender and Grade Differences

- Availability of F&V
 - Males
- Asking for vegetables as a snack
 - Females
- Self-efficacy for eating F&V at a restaurant
 - 8th grade
- Asking for vegetables as a snack
 - 7th grade
- Choosing vegetables at lunch
 - 7th grade



Social Marketing Results

- Faculty
 - Actual F&V consumption (Table 30)
 - Perceived fruit consumption (Table 31)



Social Marketing Results

- Parents
 - Perceived fruit consumption (Table 13)
 - Food preferences (Table 20)
 - Serving F&V (Tables 24, 25, 26)
 - Self-efficacy (Table 15)
 - Knowledge (Table 27)



Curriculum-Only Results

■ Students

- Consumption of fruit (A) (Table 4)
- Asking behaviors (pg. 78 & Table 5)
- Availability (B) (pg. 81 & Table 6)
- Knowledge (A) (Table 7)
- Self-efficacy ↓ (pg. 86 & Table 8)
- Presentation (pg. 88 & Table 9)
- Choose fruit at lunch ↓ (B) (pg. 91 & Table 11)
- Gender differences (pp. 91, 94, 94)

■ Faculty

- Perceived fruit consumption (Table 31)

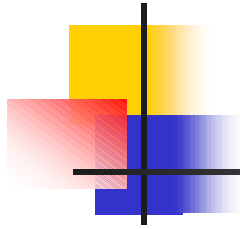
■ Parents

- Perceived fruit consumption (Table 13)



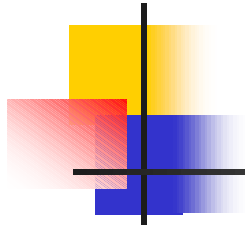
Gender and Grade Differences

- Self-efficacy for eating F&V with less fat
 - Females
- Self-efficacy for eating F&V at home
 - Males
- F&V availability
 - Males
- F&V availability in vending machines
 - Females



Correlations

- Relationship of study variables to consumption (Tables 33-36).
- Significant correlations were found.
- Small percent of variance explained.
- Most highly correlated variables were related to asking behaviors and availability at home.



Limitations

- Length of interventions
- Matched sample for parents



Implications for Health Education

Supports continued use of social marketing.

- Multicomponent interventions.
- Inclusion of parental component.
- Consider impact on secondary audiences.
- Feasibility of social marketing with adolescents.
- Development of partnerships.



Recommendations for Future Research

- Integration of classroom-based curriculum with social marketing school-based interventions.
- The influence of secondary target audiences on primary target audiences over time.